

**IN THE CLAIMS:**

A full listing of all claims is as follows:

Claims 1-12 – Canceled.

13. (Previously Presented) A device for modifying a fluid moving through a vessel prior to the ejection of the fluid from the vessel into the body of a patient, the device comprising:
- a first lumen;
  - a second lumen;
  - an exit orifice located at a distal end of the first lumen;
  - a mixing chamber positioned within the first lumen proximal to the exit orifice, the mixing chamber in communication with the exit orifice, and
  - a passageway located proximal to the exit orifice, the passageway being positioned between the mixing chamber and the second lumen and fluidly connecting the mixing chamber to the second lumen, the passageway containing a selectively permeable membrane positioned to selectively pass compounds through the passageway between the mixing chamber and the second lumen.
14. (Previously Presented) The device of claim 13 further comprising:
- a third lumen, the third lumen in fluid communication with the mixing chamber, and the mixing chamber in direct contact with the exit orifice.
15. (Previously Presented) The device of claim 13 further comprising:
- a vacuum source in fluid communication with the second lumen; and,
  - a resin positioned within the second lumen, the resin adapted to trap and retain compounds passing through the selectively permeable membrane and resident within the second lumen.
16. (Previously Presented) The device of claim 13 wherein the selectively permeable membrane is adapted to extract a solvent from fluid in contact with the selectively permeable membrane and wherein the mixing chamber is in direct contact with the exit orifice.

17. (Original) The device of claim 16 wherein the fluid is a therapeutic.
18. (Previously Presented) A device for modifying a fluid moving through a vessel prior to the ejection of the fluid from the vessel comprising:
- a first lumen;
  - a second lumen;
  - an exit orifice located at a distal end of the first lumen;
  - a mixing chamber in communication with the first lumen and the exit orifice; and
  - a passageway located proximal to the exit orifice, the passageway being positioned between the mixing chamber and the second lumen and fluidly connecting the mixing chamber to the second lumen, the passageway containing a selectively permeable membrane positioned to selectively pass compounds through the passageway;
- wherein the first lumen and the second lumen are concentric about one another and share a longitudinal axis.

Claims 19-23 – Canceled.

24. (Previously Presented) The device of claim 13 wherein the material comprising the first lumen includes a metal.
25. (Previously Presented) The device of claim 13 wherein the selectively permeable membrane comprises a polycarbonate.
26. (Previously Presented) The device of claim 13 wherein the selectively permeable membrane comprises glass microfibers.
27. (Previously Presented) The device of claim 13 wherein the mixing chamber is sized to fit within an internal lumen of the body of the patient.
28. (Previously Presented) A catheter for delivering a fluid inside the body of a patient, the catheter comprising:
- a first lumen for transporting the fluid from a proximal end of the catheter to a distal end of the catheter, the first lumen comprising an exit orifice at the distal end of the catheter through which the fluid is discharged to the patient;
  - wherein the catheter further comprises:
  - a fluid modification chamber located within the first lumen proximal to the exit orifice;

a second lumen connected by a passageway to the fluid modification chamber, the passageway being connected to the fluid modification chamber at a location proximal to the exit orifice of the first lumen; and

a selectively permeable membrane located in the passageway between the fluid modification chamber and the second lumen, wherein the selectively permeable membrane is positioned to selectively pass compounds through the passageway between the fluid modification chamber and the second lumen, thereby modifying the fluid prior to the fluid being discharged through the exit orifice.

29. (Previously Presented) The catheter of claim 28 wherein the selectively permeable membrane is adapted to extract a solvent from the fluid while the fluid is in the fluid modification chamber.

30. (Previously Presented) The catheter of claim 28 wherein the selectively permeable membrane is adapted to add a compound to the fluid while the fluid is in the fluid modification chamber.